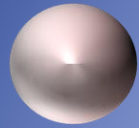


It's time ... Harness Maine's Renewable Forests for the Environment and the Economy





Conventional thinking is the challenge to overcome



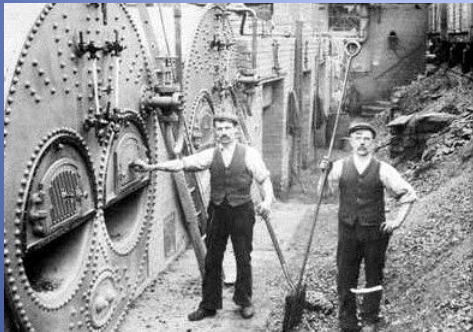
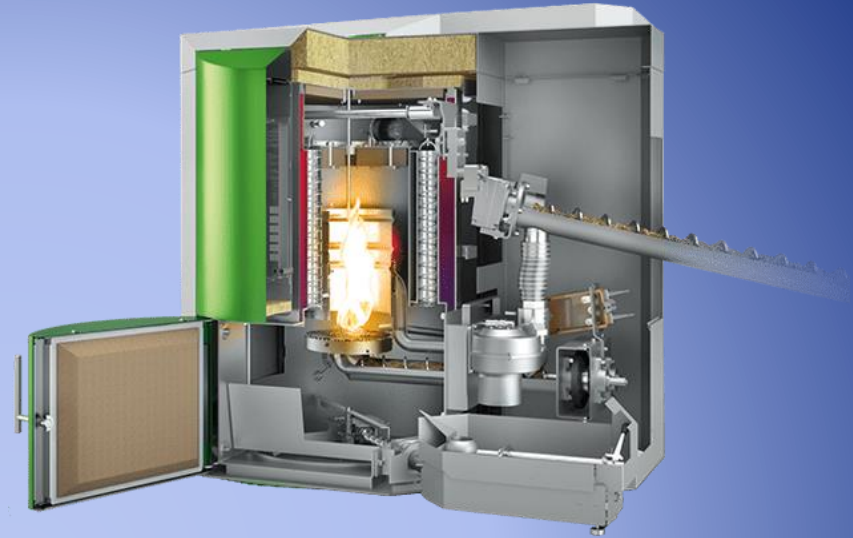
Conventional thinking is based on the knowledge, beliefs, and practices necessary to maintain the status quo.

In the short term it is comfortable.

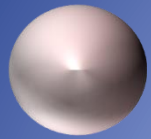
But long term it can prevent innovation and change.

Conventional Thinking

It's like a warm blanket
It's familiar
It feels safe
It's Common and Ordinary



- To Break with Conventional Wisdom,
You need a compelling argument or
reason.
- To Break with Conventional Wisdom,
You may need to be a little Disruptive.

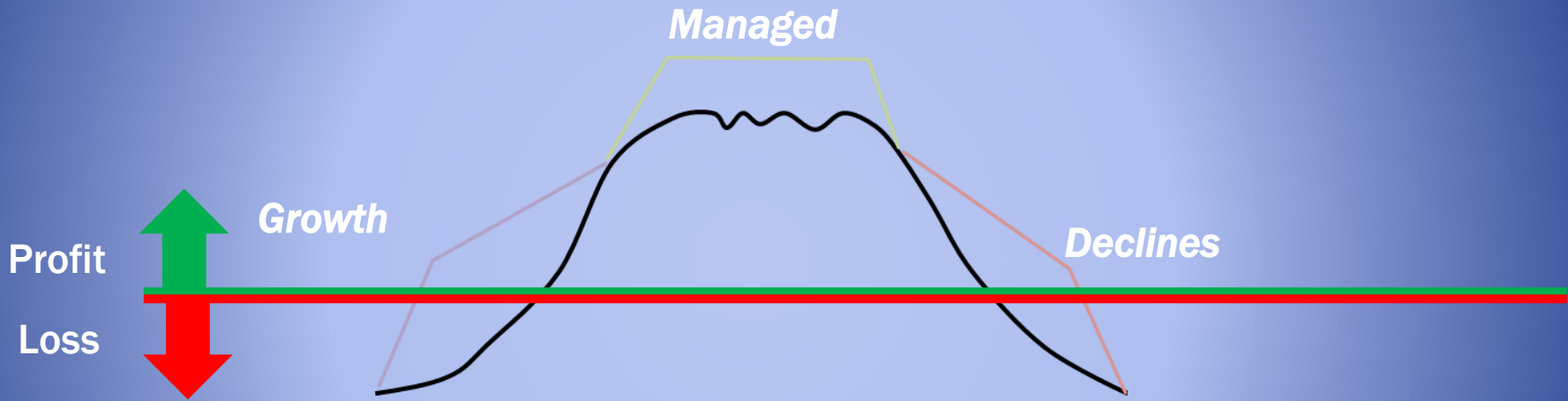


Disruptive Thinking, Technology

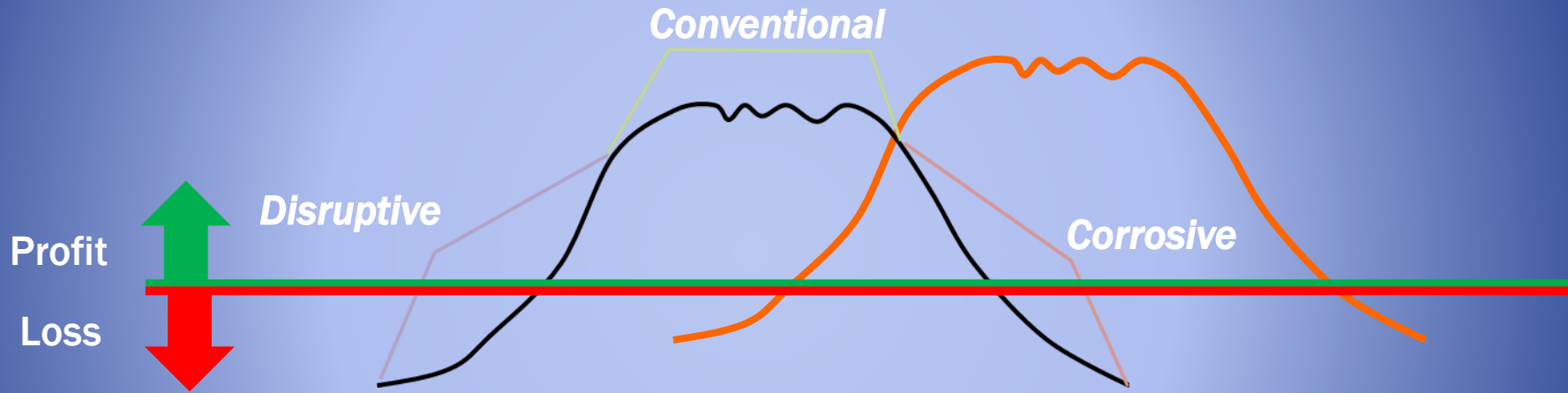
- Rejects the status quo and seeks out technology that is not yet common and ordinary.
- Succeeds when we make transitioning from the current common and ordinary to the new technology...appealing and beneficial, socially, economically and environmentally.

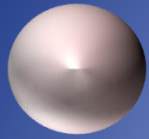
The Life Cycle of Technology

Nothing lasts forever



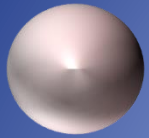
The Cycle of Technology





Change Has Got Some Problems

- Scares the pants off what is currently common and ordinary
- Challenges existing products, systems and what is currently common and ordinary will fight back
- May Require social change
- Needs clear a path to market and/or acceptance

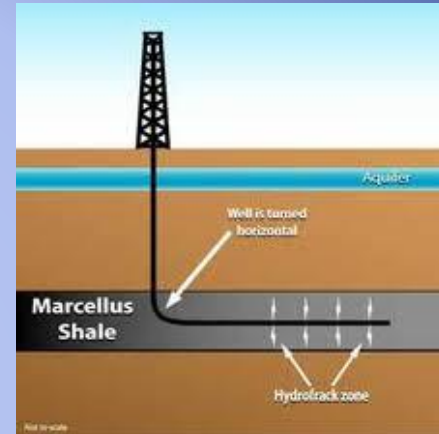


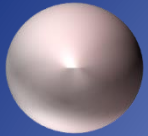
The time is right for a new common and ordinary for heating in Maine

- We are the Saudi Arabia of renewable wood energy that can burn cleanly, reliably in the form of refined wood pellets
- We have boilers and furnaces today that are equal to or better than fossil fuel devices.
- Energy independence would be an economic boon for the economy... Economies grow when we make Things.

Conventional Wisdom

- We have enough fossil fuel to last 30, 40, 50 years and let's worry about it then.
- Renewable energy is too expensive and impractical and does not support affordable energy needs



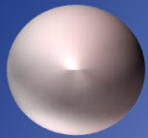


Let's take a longer view

- There is a finite amount of fossil energy that took hundreds or millions of years to make, it will run out. Its use is extraordinarily expensive with its long term damage to the environment.
- By using our renewable natural resources we can make a significant impact on the economy of Maine by heating homes and businesses.
- The opportunity is here to take the steps necessary to make Wood Pellets the new common and ordinary.
- What could be more natural than sustainably harvesting our renewable fuel to keep warm.
- Transition of our existing fuel industry is logical

**What could be More American
than building a new energy
economy based on renewables**

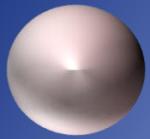
**Just like the Refrigerator
replaced the ice box**



Here's A Plan For Maine

Maine can transition to a more self-sufficient future

- Positively impact our state economy by localizing how 541,000 homes and 41,000 businesses are heated
- Formulate a policy that supports a gradual transition of 15% of our dependence on oil and gas
- Strive to find other renewables to help with climate change and reduce Maine's use of heating oil, at 61% the highest in the US
- Acknowledge that due to our large rural based population natural gas will not penetrate much of our population even as a transitional fuel. And what are we transitioning too?



358,000 Homes and Businesses Use Oil

- @ \$3.00 / gallon = ~\$1,000,000,000 cost of heating annually
- \$650,000,000 leaves Maine annually
- Resulting in 38,955 lost Maine jobs

It is not feasible to convert 100% of Maine homes and businesses. If 15% were converted this would create 1,283 new Maine jobs.

What would be the increase in disposable income?

What would be the increase in disposable income?

\$31,500,000

What is the cost of pellets compared to the cost of oil and propane?

What is the cost of pellets compared to the cost of oil and propane?

Pellets have been consistently lower over the last decade and currently the oil equivalents are....

Cost of pellets: \$269 = \$2.24

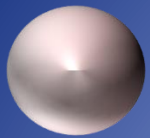
Cost of oil: \$2.96 = \$2.96

Cost of propane: \$2.89 = \$ 4.12

**How much low-grade wood would a
15% transition use?**

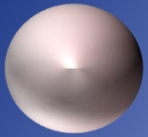
**How much low-grade wood would a
15% transition use?**

**830,000 tons
(less than 25% of what is currently available)**



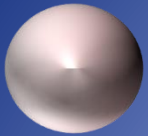
Is this an environmentally sound idea?

- Maine forests are growing 40% faster than harvested.
- Pellet boilers reduce net carbon emissions by at least 85%.
- Modern ultra efficient pellet boilers can be over 90% efficient and have low particulate emissions. They do not produce smoke.
- We make pellets. We make pellet boilers.



Conclusions

- 2-4% (13,000) of fossil fuel systems need replacement annually. Only a few will have access to natural gas.
- As the market grows, the cost of installing a pellet boiler decreases.
- Rebates and incentives are a common strategy to seed transition.
- At today's fuel prices, consumers save \$600 annually. At 2013 fuel prices, consumers would save \$1,600 compared to oil. The savings with propane are even higher.



In Summary

- 431 jobs = \$115,316,985 annually into the economy from direct, indirect and induced jobs
- + \$168,636,759 annually x 2 years to build infrastructure to accommodate growing demand (1,491 jobs)
- Additional job opportunities for installing, marketing and manufacturing equipment
- Maine's wood basket can handle increased demand for pellets

Biomass

It's our past

It's our present

It's our future

Time to disrupt Conventional
Wisdom

**Let's build the
next Common
and Ordinary and
embrace our
forest heritage for
the Economy and
the Environment.**

Thank you!

Facts and figures provided by Future Metrics LLC.